

REMARKS

Claims 1-6 were presented for examination. Claims 1-6 were rejected.

New dependent claims 7-14 are added to provide the scope and breadth of claims coverage to which Applicant is entitled in view of the cited art. These claims are supported by the patent application as originally filed. For example, see p. 11 second paragraph (synchronization and locking of reference signals, local oscillators, harmonics and pilot tones), FIGS. 3C-3D (allocation of frequency bands), and FIGS. 4A-4B and 8C-8D (FDM multiplexing and demultiplexing, and O/E and E/O conversion). No new matter is added.

Reconsideration of this application as amended, and allowance of all pending claims, claims 1-14, is hereby respectfully requested.

Applicant's attorney thanks the Examiner for his time in conducting a telephone interview on August 10, 2004. The time was spent effectively and significant progress was made even though no agreement was reached at the time. During the telephone interview, Applicant's attorney and the Examiner discussed claim 1 with respect to the rejections outstanding in the office action. The issues discussed during the interview are summarized below in the remarks regarding claim 1.

Claim 1 was rejected under 35 U.S.C. § 102(b) as being unpatentable over Horiuchi (USPN 6,160,649). Applicant traverses this rejection.

Claim 1 recites the steps of transmitting an optical signal across an optical fiber to a receiver node, recovering a reference signal from the optical signal and "synchronizing the receiver node with the recovered reference signal." Horiuchi does not synchronize. The office action points to element 70 in Fig. 6 of Horiuchi as performing the synchronizing step. Element

70 is a detector that receives an incoming signal and a reference signal (f_s and $1/N f_r$) and produces a DC output corresponding to the amplitude of the incoming signal. It does not, however, synchronize any of these signals.

In more detail, claim 1 requires the step of “synchronizing the receiver node with the recovered reference signal.” Dependent claim 2 recites an example where the receiver node includes a local oscillator and the step of synchronizing comprises “synchronizing [the] local oscillator . . . with the recovered reference signal.” “Synchronization” means that two signals are maintaining a specific time (or phase) alignment between them. At least one of the two synchronized signals will have the capability to adjust its timing in order to maintain this alignment with the other signal (in some cases, each of the signals may be able to align to the other). If the one signal varies (e.g., due to a timing change), then the other signal will automatically adjust its timing in order to maintain the alignment (e.g., electronics may automatically alter the timing of the second signal in order to align to the new timing of the first signal). If neither signal is capable of adjusting its timing in this manner, then alignment will not be maintained and the two signals are not synchronized.

Horiuchi’s detector 70 does not maintain alignment between any two signals. The detector 70 is a coherent detector that receives a signal to be measured (f_s) and a reference signal ($1/N f_r$) and outputs a DC signal corresponding to the amplitude of the signal to be measured. The detector 70 does not synchronize anything. For example, if the timing of the signal to be measured f_s is altered, the detector 70 does not automatically alter the timing of the reference signal $1/N f_r$ to match the new timing. Instead, it simply combines the time-altered incoming signal f_s with the reference signal $1/N f_r$ and outputs the corresponding DC signal. Similarly, if the timing of the reference signal $1/N f_r$ is altered, the detector 70 does not automatically alter the

timing of the signal to be measured fs to match the new timing. There simply is no synchronization occurring within detector 70.

The rejection in the office action appears to rely primarily on the label “synchronous detector” which is attached to detector 70. However, this label appears to be a mistake in translation. Horiuchi claims priority to a Japanese application. Therefore, it is likely that the English text was translated from a Japanese original. This view is supported by the style and quality of the English text. It appears to be translated English as opposed to native English. Applicant’s attorney believes that the Japanese term for element 70 was mistakenly translated as “synchronous detector” when it should have been translated as “coherent detector” or something similar. Regardless, the fact remains that the detector 70 does not synchronize anything to a recovered reference signal, as is recited in claim 1.

Accordingly, Applicant respectfully submits that claim 1 and its dependent claims 2-5 are patentably distinctive from Horiuchi.

Claims 2-6 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of either Horiuchi and Rowan (USPN 6,529,303), or Horiuchi and Tang (USPN 5,339,184). Applicant traverses these rejections.

First, the office action relies on Rowan and Tang to provide additional claim elements beyond those provided in Horiuchi. Regardless of whether these references disclose these additional claim elements, neither Rowan nor Tang suggests or discloses any cure to the fundamental shortcoming of Horiuchi discussed above. That is, neither secondary reference teaches the synchronization step described above.

Second, Rowan qualifies as prior art only under 35 U.S.C. § 102(e). However, at the time the claimed invention in the present application was made, both the claimed invention in the present application and the subject matter in Rowan were owned by Kestrel Solutions, Inc., as further evidenced by the assignments to Kestrel Solutions, Inc. recorded at reel/frame 010439/0058 for Rowan (which assignment is dated before the filing date of the current application) and at reel/frame 012244/0683 for the current application. Therefore, under 35 U.S.C. § 103(c), Rowan cannot be used as a prior art reference against the current application under 35 U.S.C. § 103(a).

Accordingly, Applicants respectfully submit that claims 2-6 are patentably distinctive from the cited references for these additional reasons.

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Closing

New dependent claims 7-14 are added to provide the scope and breadth of claims coverage to which they believe they are entitled in view of the cited art.

Applicant believes that the application is in condition for allowance of all claims herein, and therefore an early Notice of Allowance is respectfully requested. If the Examiner believes that for any reason direct contact with Applicant's attorney would help advance the prosecution of this case to finality, the Examiner is invited to telephone the undersigned at the number given below.

Respectfully submitted,

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